

A MDMP For All Seasons: Modifying The MDMP For Success

**A Monograph
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ABSTRACT

A MDMP For All Seasons: Modifying the MDMP For Success by Major Todd C. Runyon, United States Army, 59 pages.

The U.S. Army's Military Decision-Making (MDMP) has been criticized repeatedly during the past decade for being untimely, unrealistic, dogmatic, and stifling creativity. U.S. Army Field Manual, FM 5.0, *Army Planning and Orders Production*, is currently in final draft. FM 5.0 identifies the theory behind decision-making, the decision-making environment, and describes key planning concepts that answer the criticism surrounding U.S. Army decision-making. It is the author's assertion that the MDMP has not been revised to capitalize on what is published in doctrine therefore it is not the optimum decision-making process. However, alternative decision-making models exist that can enable the Army to modify the MDMP to meet the demands of the military decision-making environment. The purpose of this monograph is to prove that the MDMP is not the optimum decision-making process and provide an alternative that meets the requirements of the military decision-making environment.

In order to determine if the MDMP provides the optimum decision-making method, this monograph reviews decision-making theory; determines requirements of the military decision-making environment; describes and analyzes the current U.S. military decision-making doctrine and MDMP; and describes and analyzes alternative military decision-making models. The following requirements from the military decision-making environment are used as analytical criteria to evaluate the MDMP: uncertainty, time, complexity, joint, commander's focus, flexible plans, and bold plans. The alternative decision-making models are: Canadian Operational Planning Process; Major John Schmitt and Gary Klein's Recognition Planning Model; Colonel Kevin Benson's Collaborative Decision-making Model; and the Naval War College Commander's Estimate of the Situation (CES). A comparative analysis shows that the MDMP is equal to or better than the alternative decision-making processes with respect to uncertainty and complexity. The Collaborative Decision-making model is superior in terms of time, commander's focus, and developing bold plans. The CES is the most compatible for joint war fighting and all decision-making models are poor in terms of developing flexible plans.

Using the strengths of the alternative decision-making model, the author proposes a modified MDMP that will meet the requirements of the decision-making environment. Step 1, Receipt of Mission, is conducted collaboratively and the commander determines what decision-making theory to use. During Step 2, Mission Analysis, one estimate of the situation is conducted, a tentative course of action (COA) is developed, and the elements of operational design are defined. If it is an operational mission, a critical factor analysis is conducted; if it is tactical the decisive point is defined. The task, Review Available Assets, is changed to identifying capabilities required to accomplish the essential tasks. The third step, Collaborate on COAs, is designed to develop one COA collaboratively. The fourth step, War-gaming, remains the same as the MDMP except it is entirely automated. A fifth step, Post-Mortem Analysis, is added to develop branches and sequels. The remaining steps are similar to the MDMP. A five-question method is also added to ensure the commander and staff remain focused on solving the problem and not focused on completing the steps.

TABLE OF CONTENTS

TABLE OF FIGURES	ii
CHAPTER 1 - Introduction.....	1
Defining the Problem	1
Defining Decision-Making and Planning	4
Decision-Making Theory	4
Rational Decision-Making Theory	5
Limited Rationality Decision-Making Theory	6
Rules-Based Decision-Making Theory	8
Military Decision-Making Environment	9
Analytical Criteria	12
CHAPTER 2 - U. S. Army Decision-Making Doctrine	13
History of U. S. Army Decision-Making Doctrine	13
Current U. S. Army Decision-Making Doctrine	17
Analysis of Current U. S. Army Decision-Making Doctrine	25
CHAPTER 3 - Alternative Military Decision-Making Methods.....	33
Canadian Operational Planning Process.....	33
Recognitional Planning Model.....	39
Collaborative Decision-Making Model.....	44
Naval War College Commander's Estimate of the Situation	49
Analytical Summary	51
CHAPTER 4 - Conclusion	52
Proposed Modified Military Decision-Making Model.....	52
BIBLIOGRAPHY	56

TABLE OF FIGURES

Figure 1 U.S. Army Problem Solving Method.....	6
Figure 2 Recognition-Primed Decision-Making	7
Figure 3 U.S. Army MDMP	25
Figure 4 Canadian Estimate of the Situation	34
Figure 5 Recognition Planning Model.....	41
Figure 6 Collaborative Decision-Making Model.....	46
Figure 7 Naval War College Commander's Estimate of the Situation	50

CHAPTER 1 - Introduction

Decision-making is the foremost human factor, indeed unique contribution, involved in warfare. In effect it is the means for implementing the human will.

GEN Charles C. Krulak

Defining the Problem

Significant research has been conducted, during the past decade, by the military, business, and academia on decision-making in hope of determining better methods to effectively make decisions. As part of this process, the U. S. Army's Military Decision-Making Process (MDMP) has been criticized repeatedly for being untimely, unrealistic, dogmatic, and stifling creativity.¹ MDMP is considered untimely because the time pressure associated with military problems does not allow you to conduct the complete process. It is considered unrealistic because planners do not always follow the MDMP in actual operations unless they are being evaluated.² It is also considered unrealistic because military decision-making is surrounded in uncertainty, therefore, there is no way of knowing all the information needed to choose the best solution.³ The MDMP has been characterized as dogmatic because the focus has become the process instead of the output.⁴ Since the MDMP is based on analysis versus synthesis, it is criticized as being mechanistic and stifling creativity.⁵

Is there an alternative to the MDMP? The primary argument by the majority of those criticizing the MDMP is based mainly on Gary Klein's research. Gary Klein, a cognitive psychologist who specializes in decision-making and has completed numerous decision-making

¹ The monograph author reviewed over 60 articles, books, monographs or thesis written in the last 10 years on improving decision-making in the military and business. The authors were primarily military officers, academicians, and cognitive psychologists that critiqued the analytical decision-making process that the military uses. Most of the articles were used as part of this monograph and are listed in the bibliography.

² MAJ John F. Schmitt and Gary Klein, "How We Plan", Marine Corps Gazette, October 1999, 19.

³ MAJ John F. Schmitt, "How We Decide", Marine Corps Gazette, October 1995, 16.

⁴ MAJ J. E. Passmore, "Decision Making in the Military", The British Army Review, Winter 2001-2002, 47.

⁵ Schmitt and Klein, "How We Plan", 20.

studies for the military, argues that the military should adopt a form of limited rationality decision-making instead of using the MDMP, which is an analytical decision-making process. Limited rationality and analytical decision-making will be discussed in detail later in this chapter.

U. S. Army Field Manual, FM 5.0, *Army Planning and Orders Production*, has been revised and is currently in final draft. Theoretically, FM 5.0 provides flexibility for decision-makers because it recognizes the strengths and weakness of both the rational and limited rationality decision-making theories. FM 5.0 defines fundamentals of planning, such as commander's involvement and developing creative plans, which it states are essential for producing effective plans, but does not change the MDMP to truly incorporate these concepts. FM 5.0 recognizes the need for operating in a time-constrained environment and describes the concepts of parallel and collaborative planning but does not describe how these concepts can be used to maximize their utility within the MDMP. FM 5.0 states that it is the keystone manual for planning at corps and division but it refers planning for joint operations to joint publications instead of having a procedure that is compatible for both service specific and joint planning. FM 5.0 also recognizes the need for flexible plans but does not provide a method within the MDMP on how to develop branches and sequels. Essentially, FM 5.0 identifies the theory behind decision-making, the decision-making environment, and describes key planning fundamentals and concepts that answer the criticism surrounding the MDMP. However, the MDMP process in FM 5.0 is the same 38-step process as previous versions. Therefore, the MDMP has not been revised to capitalize what the Army has defined in its doctrine.⁶

Does our current decision-making process provide the optimum method to conduct planning at the operational and tactical levels of war? The author's hypothesis is that our current decision making doctrine is sound but the current MDMP does not capitalize on what is

⁶ United States Army, Field Manual (FM) 5.0 (Final Draft), *Army Planning and Orders Production*, (Washington: Department of the Army, 2002), 1-1 – 1-23.

recognized by FM 5.0. Therefore, it is not the optimum decision-making process. However, previous research and technology exists to provide a decision-making process that will enable the Army to modify the MDMP to meet the demands of the current and future military decision-making environment.

This monograph will be broken down into four logical parts to determine if our current decision-making process provides the optimum method. Chapter 1 establishes the basic definitions and theories of decision-making and planning to provide a framework to view decision-making. The first step in answering the problem will be to define the current military decision-making environment at the operational and tactical levels of war. The military decision-making environment determines what is required of the optimum decision-making process. These requirements will be used as criteria to analyze the strengths and weaknesses of the military decision-making processes that will be reviewed. Chapter 2 focuses on describing and analyzing the U.S. Army's military decision-making doctrine and MDMP to see if it meets the requirements of the current military decision-making environment. Chapter 3 describes and analyzes alternative military decision-making methods that have been proposed by previous research. The alternative methods were selected based on distinguishable traits that are different from the U.S. Army's military decision-making process. These alternative methods include: Canadian Operational Planning Process, Major John Schmitt and Gary Klein's Recognitional Planning Model, Colonel Kevin Benson's Collaborative Decision-making Model, and the Naval War College Commander's Estimate of the Situation. The final step is to determine the optimum solution based on the analysis of the criteria. A modification to the U.S. Army's military decision-making process that combines the strengths of the alternative methods will then be presented.

Defining Decision-Making and Planning

People make hundreds of decisions everyday. Decision-making is nothing more than solving a problem. However, the majority of problems that people face every day are simple and have solutions in the present. Most large organizations, and especially the military, deal with more complex problems. There are solutions to these complex problems but they are not initially apparent and the solution is found in the future.⁷ In order to solve these complex problems organizations have to plan.

FM 5.0 defines planning as “the means by which the commander envisions a desired outcome, lays out effective ways of achieving it, and communicates to his subordinates his vision, intent, and decisions, focusing on the results he expects to achieve.”⁸ The manual goes on to state that the Army’s decision-making process serves as “a guide for planning activities”.⁹ Therefore, the military decision-making process is how the military plans. This relationship is important because the process used to plan will have a great impact on how the plan is designed.

Decision-Making Theory

Understanding the theory behind a specific discipline is critical because theory provides the basic idea from which everything in the discipline is designed. Theory provides the essence of the concept in its simplest terms and provides a framework from which to view reality¹⁰. The three primary decision-making theories are rational, limited rationality, and rules-based decision-making. They provide the baseline from which all current decision-making models are designed¹¹. All three decision-making theories will be described in the following paragraphs. However, this monograph will primarily focus on rational and limited rationality theory since

⁷ James J. Schneider, “What If We Fight Tonight”, Army Magazine, November 1995, 43.

⁸ United States Army, FM 5.0, 1-1.

⁹ Ibid., 1 – 2.

¹⁰ Schneider, “What If We Fight Tonight”, 44.

¹¹ James G. March, *A Primer on Decision Making*, (New York: The Free Press, 1994), 8.

rules-based decision-making is used in the military to respond to a situation instead of planning an operation.

Rational Decision-Making Theory

The most prominent theory for business and the military is rational decision-making, also known as multi-attribute utility analysis and analytical decision-making. Rational decision-making is designed to find the best solution to the problem. This theory assumes that the decision-maker knows all his options and the results or consequences of those options.¹² In other words, there is no uncertainty. James G. March, the Jack Steele Professor of International Management and professor of political science and sociology at Stanford University, describes rational decision-making as consequential and preference based. Rational decision-making is consequential because the alternative choices are evaluated based on their future outcome or expected consequences. They are preference based because the expected consequences are evaluated on the personal preference of the decision-maker.¹³ He further describes rational decision-making as answering four questions:

1. What alternative choices are possible?
2. What can the decision-maker expect as a consequence or result from each alternative choice?
3. What alternatives does the decision-maker prefer based on the consequences or results from each alternative choice?
4. What is the decision rule? How do you make a choice based on the consequences or results associated with each alternative?¹⁴

¹² United States Army, FM 5.0, 1-4.

¹³ March, *A Primer on Decision Making*, 2.

¹⁴ Ibid., 2 – 3.

The U.S. Army's definition of decision-making is based on rational decision-making. FM 5.0 defines decision-making as "selecting a course of action [COA] as the one most favorable to accomplish the mission".¹⁵ The U.S. Army uses rational or analytical decision-making for basic problem solving and the MDMP. The U.S. Army defines analytical decision-making as a systematic process based on reduction of the problem into specific manageable parts. All information concerning the problem is identified. Multiple solutions are then developed to solve the problem. All of the solutions developed are evaluated based on identified criteria and the best solution is then selected.¹⁶ Figure 1 illustrates the U.S. Army's analytical problem solving method.

U.S. Army Problem Solving Steps

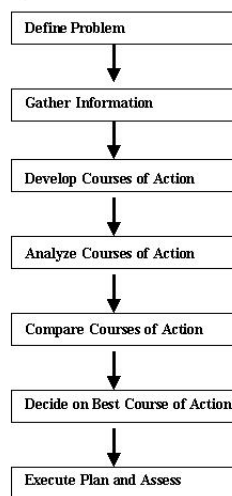


Figure 1 U.S. Army Problem Solving Method¹⁷

Limited Rationality Decision-Making Theory

Limited rationality theory has emerged as part of the ongoing research into decision-making in the last decade. This theory is based on how people make decisions in real life.

¹⁵ United States Army, FM 5.0, 1-4.

¹⁶ Ibid., 1-12.

¹⁷ Ibid., 2-4.

People who make decisions using limited rationality theory do not consider all alternatives or their consequences. They consider selected alternatives sequentially and find the first solution that will work instead of trying to find the best solution.¹⁸ The Recognition-Primed Decision Model, defined by Gary Klein, is based on limited rationality theory. Figure 2 illustrates Gary Klein's Recognition-Primed Decision Model.

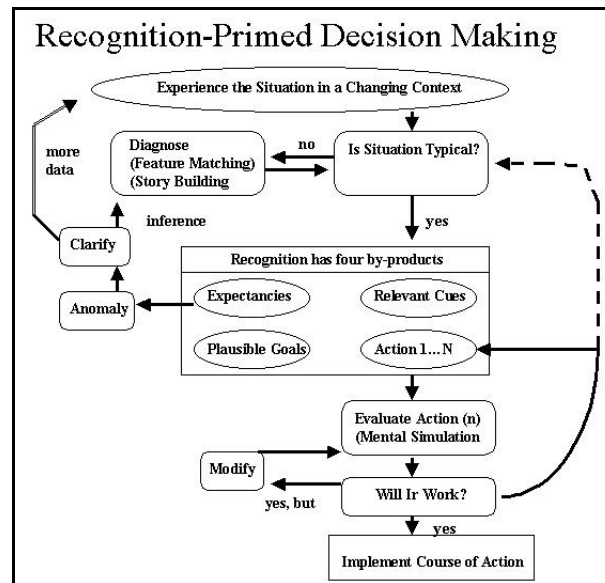


Figure 2 Recognition-Primed Decision-Making¹⁹

Gary Klein developed the Recognition-Primed Decision Model, after numerous studies, to determine how decision-makers actually made decisions. Klein studied tactical military decision-making ranging from: platoon leaders to brigade staffs at the National Training Center and Battle Command Training Program; military decision-making at the operational level during joint exercises; and crisis decision-making of first responders. Klein's conclusion was experienced decision-makers did not use analytical decision-making.²⁰ Instead, they used limited rationality theory. They used their experience to assess the situation and determine if it was

¹⁸ March, *A Primer on Decision Making*, 8 – 9.

¹⁹ Klein, *Sources of Power: How People Make Decisions*, 27.

²⁰ Gary Klein, "Strategies of Decision Making", *Military Review*, May 1989, 57 – 58.

familiar and what goals made sense. They quickly formed a COA and evaluated it by mental simulation to see if it would solve the problem. If the first COA solved the problem, they chose that COA. They did not try and determine the best COA, only one that worked. If the first COA showed weakness during their mental simulation they discarded it and sequentially moved on to another COA.²¹

Rules-Based Decision-Making Theory

The final decision-making theory is rules-based decision-making. Individuals and organizations, using rules-based decision-making, make thousands of decisions each day. Rules-based decision-making is simply determining what the problem is, determining what your role is in the organization, and executing a decision based on what is expected of you in accordance with established rules or standard operating procedures. James G. March described rules-based decision-making as “logic of appropriateness”.²² Decision-makers answer the following questions when using rules-based decision-making:

1. Recognition. What is the situation?
2. Identity. What kind of person am I?
3. Rules. What decision would a person make in a situation like this?²³

The U. S. Army uses rules-based decision-making primarily at the platoon level and below. U. S. Army’s standard operating procedures and drills are examples of rules that prescribe what each individual is responsible for doing in response to a problem. U. S. Army FM 7-8, *Infantry Rifle Platoon and Squad*, defines procedure as “a standard detailed course of action that

²¹ Gary Klein, *Sources of Power: How People Make Decisions* (Cambridge, Massachusetts: The MIT Press, 1999), 30.

²² March, *A Primer on Decision Making*, 58.

²³ *Ibid.*, 58.

describes the way to perform a task”.²⁴ Drills are defined as “small unit standard procedures that standardize actions that link soldier and collective tasks at platoon level and below”.²⁵

Military Decision-Making Environment

Any decision-making process used by the military should be designed to meet the requirements of the environment in which the military operates. Many facets of that environment have not changed since the beginning of war.²⁶ However, the contemporary operating environment created since the end of the bi-polar world has increased the complexity of most military operations. For the purposes of this monograph the author will use the requirements identified by the decision-making environment and four of the six fundamentals of planning identified by the United States Army in FM 5.0 as the criteria to evaluate the military decision-making models.

Carl von Clausewitz determined the “atmosphere of war” to be one of general friction of which its sub-elements are danger, physical exertion, intelligence, and friction.²⁷ Danger and physical exertion are self-explanatory. Intelligence is better defined as the uncertainty of the situation.²⁸ He also describes war as a gamble because “no other human activity is so continuously or universally bound up with chance”.²⁹ The concepts of general friction and chance described by Clausewitz led to his often-quoted statement that “everything in war is very simple, but the simplest thing is difficult”.³⁰ The military has and will always operate in the realm of friction and chance. MG (RET) Scales stated, in his testimony on Operation IRAQI

²⁴ United States Army, Field Manual 7.8, *Infantry Platoon and Squad*, (Washington: Department of the Army, 1992), 4-1.

²⁵ *Ibid.*, 4-1.

²⁶ United States House of Representatives, House Armed Services Committee, MG (RET) Robert Scales speaking on Operation IRAQI FREEDOM, October 21, 2003.

²⁷ Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret, (Princeton: Princeton University Press, 1984), 122.

²⁸ *Ibid.*, 117.

²⁹ *Ibid.*, 84.

³⁰ *Ibid.*, 119.

FREEDOM, “those in command (including civilian leaders) had to make decisions of life and death under split-second pressure and an unprecedented barrage of information that was often ambiguous, uncertain, or contradictory”.³¹ Therefore, the first requirement of the decision-making process is the ability to be used in an environment of friction or uncertainty.

A requirement for victory, since the beginning of war, is speed on the battlefield. As Sun Tzu stated, “Speed is the essence of war.”³² Time is one factor that can never be replaced on the battlefield. You can increase your time to prepare and execute by deciding faster than the enemy.³³ Time, in regard to decision-making, is becoming of increasing importance based on the emerging concept of decision-superiority. Decision-Superiority is defined as the ability to make better decisions faster than the threat can react. Decision-Superiority has been identified as a critical component required for future joint operations.³⁴ Therefore, the second requirement of the decision-making environment is the ability to make decisions in a timely manner.

The U.S. Army’s current doctrine is based on full-spectrum operations, which FM 3.0, *Operations*, defines as a “range of operations Army forces conduct in war and military operations other than war”.³⁵ These operations are no longer focused solely on combat operations conducted against a peer competitor with an organized military and established doctrine like the former Soviet Union. They also include actions against failed nation-states, non-state actors, and transnational activities that are conducting operations ranging from terrorism to illegal drug trafficking. Full-Spectrum operations also include stability and support operations ranging from

³¹ United States House of Representatives, House Armed Services Committee, MG (RET) Robert Scales speaking on Operation IRAQI FREEDOM, October 21, 2003.

³² Samuel B. Griffith, ed. and trans., *Sun Tzu, The Art of War*, (New York: Oxford University Press, 1963), 134.

³³ LTC John F. Antal, “It’s Not the Speed Of the Computer That Counts! The Case for Rapid Battlefield Decision-Making”, *ARMOR*, May-June 1998, 12.

³⁴ Joint Vision and Transformation Division, Joint Staff/J7, *An Evolving Joint Perspective: US Joint Warfare and Crisis Resolution in the 21st Century*, (Washington: Department of Defense, January 2003), 19.

³⁵ United States Army, Field Manual 3.0, *Operations*, (Washington: Department of the Army, 2001), 1-4.

peacekeeping to humanitarian assistance. The contemporary operating environment has increased the complexity of the problems faced by the military.³⁶ The ability to solve complex problems is the third requirement of the decision-making environment.

The U. S. Army will never operate again as a separate service. It is part of the joint team. The Chief of Staff, U. S. Army, General Schoomaker, stated, “the Army must adopt a joint expeditionary culture” and “our systems must be adaptable by design and fully networked with joint partners”.³⁷ Not only must our organizations and equipment but be fully networked but so should our doctrine and decision-making processes. Therefore, the ability to operate in a joint environment is the fourth requirement.

United States Army FM 5.0 lists six fundamentals of planning. These fundamentals are identified to provide critical aspects that should be remembered when developing a plan.³⁸ Since the military has identified the fundamentals of planning as critical aspects of military planning they should also be requirements of the decision-making process. The first fundamental is that “commander’s focus planning”.³⁹ The commander is the key to planning and the most important participant in the process. The second fundamental is “planning is continuous” because the situation always changes.⁴⁰ Therefore, the process should be iterative and non-linear. The third fundamental, “planning is time-sensitive”, has already been identified as a requirement.⁴¹ The fourth fundamental is “keep plans simple”, which could easily apply to any decision-making process; therefore it will not be included as a requirement.⁴² The fifth fundamental is “build flexible plans”.⁴³ The plans should allow units to adapt to changing situations and capitalize on

³⁶ Ibid., 1-8.

³⁷ GEN Peter J. Schoomaker, “The Army: A Critical Member of the Joint Team Serving the Nation at War.” Chief of Staff, United States Army Website, (<http://www.army.mil/leaders/csa/articles/2003Greenbook.html>), 31 January 2004, 1.

³⁸ United States Army, FM 5.0, 1-4.

³⁹ Ibid., 1-4.

⁴⁰ Ibid., 1-4.

⁴¹ Ibid., 1-4.

⁴² Ibid., 1-4.

⁴³ Ibid., 1-4.

initiative. The plans should include numerous branches and sequels. The final fundamental is “design bold plans”.⁴⁴ Plans should be creative and use friendly strength to mass on the enemy’s weakness.⁴⁵

Analytical Criteria

The following criteria were identified in the previous paragraphs that defined the decision-making environment and the fundamentals of planning. These criteria will be used to analyze the current MDMP and alternative military decision-making processes that will be described in Chapter 3. The analysis of the MDMP in Chapter 2 will serve as the benchmark for the alternative decision-making processes in Chapter 3. The analysis will determine the optimum decision-making process.

Uncertainty: The decision-making process can be used in an uncertain environment.

Time: The decision-making process is timely.

Complexity: The decision-making process can be used to solve complex problems.

Joint: The decision-making process is applicable to joint planning.

Commander’s Focus: The commander is the most important participant in the decision-making process.

Flexible Plans: The decision-making process promotes flexible plans with branches and sequels.

Bold Plans: The decision-making process promotes creative, bold plans.

⁴⁴ Ibid., 1-4.

⁴⁵ Ibid., 1-4.

CHAPTER 2 - U. S. Army Decision-Making Doctrine

Chapter 1 identified the problem, established the basic definitions of decision-making and planning, and described the basic decision-making theories to provide a framework with which to view the MDMP and alternative decision-making processes. Chapter 2 focuses on U. S. Army decision-making doctrine. In order to understand the current U. S. Army decision-making doctrine, the evolution and historical basis of the U. S. Army decision-making process will be described. The current doctrine will be described to show the evolution of the Army's decision-making doctrine and to determine if the planning concepts described are incorporated into the MDMP. Then the MDMP will be described in detail in order for it to be analyzed using the criteria defined in Chapter 1.

History of U. S. Army Decision-Making Doctrine

Commanding and controlling armed forces has been an age-old problem since the beginning of war. However, the evolving complexity, mobility, and dispersion of modern combatants have greatly increased the problem of command and control. Modern forces are more complex as a result of specialization in troops, units, functions, and equipment. This greatly increases the difficulty in coordination and control. The increased speed and range of units and weapons have compressed time on the battlefield. The increased lethality of weapons has led to the dispersion of forces. Commanders of modern armies can no longer view the entire battlefield, at a glance, from their horse. Armies no longer operate in mass; they are subdivided and assigned specific missions based on their specialization and capabilities. The development of staffs and planning procedures evolved as commanders realized the increasing complexity of these command and control issues.⁴⁶

⁴⁶ Martin Van Creveld, *Command In War*, (Cambridge, Massachusetts: Harvard University Press, 1985), 1 – 6.

Martin Van Creveld stated in his historical study of command, Command In War, that armies did not possess specialized planning staffs and the commander primarily conducted planning until the middle of the nineteenth century when the “traditional *coup d’oie*l gave way to the German-derived estimate of the situation”.⁴⁷ The development of the modern general staff was primarily a result of the increased complexity of warfare and the advent of new technological advances. Technological advances such as the railway and telegraph permitted armies to move and communicate over long distances. These advances required detailed planning and an “increased emphasis on scientific, mathematical calculation as opposed to the intuition of old”.⁴⁸ The first modern general staff developed for these purposes was the Prussian Generalstab. Most armies, including the United States, soon adopted the Prussian staff forms and procedures.⁴⁹

The modern United States Army staff system, based on the Prussian model, was developed between the American Civil War and the Spanish American War. However, the staff procedures and planning processes were not instituted until the beginning of the twentieth century.⁵⁰ After the establishment of the Infantry and Cavalry School at Fort Leavenworth in 1901, Captain Eben Swift, an instructor at the school, began teaching a tactical orders course. The course, based on the Prussian staff system and lessons learned from the U.S. Civil War, required each student to “study the map, arrive at an estimate, and to formulate his tactical decision”.⁵¹ Captain Swifts’ class on tactical orders probably generated the idea for the estimate of the situation, which was officially documented by Captain Roger S. Fitch. Captain Fitch published Estimating Tactical Situations and Publishing Field Orders at Fort Leavenworth in

⁴⁷ Ibid., 33 – 57.

⁴⁸ Ibid., 104.

⁴⁹ Ibid., 105 – 106.

⁵⁰ United States Army, FM 5.0, V.

⁵¹ James D. Hittle, *The Military Staff: Its History and Development*, (Westport, CT: Greenwood Press, 1975), 198-199.

1909.⁵² The estimate consisted of the mission, enemy, troops, terrain, time and space, methods, and decision.⁵³ However, there was no mention of how a commander was supposed to make a decision other than considering the factors listed in the estimate. The 1910 U.S. Army Field Service Regulation included a single paragraph of an expanded version of Captain Fitch's estimate of the situation. This document was the beginning of the evolution of our current decision-making doctrine but did not provide staff procedures.⁵⁴ Unknown to the author, the estimate of the situation was based on rational decision-making theory because the commander was expected to consider all available information, compare COAs, and choose the best one. The 1910 U.S. Army Field Service Regulation stated:

“To frame a suitable field order the commander must make an estimate of the situation, culminating in a decision upon a definite plan of action. He must then actually draft or word the orders which will carry his decision into effect. An estimate of the situation involves a careful consideration from the commander's viewpoint of all the circumstances affecting the particular problem. In making this estimate he considers his mission as set forth in the orders or instructions under which he is acting, or as deduced by him from his knowledge of the situation, all available information of the enemy, conditions affecting his own command and the terrain insofar as it affects the particular military situation. He then compares the various plans of action open to him and decides upon the one that will best enable him to accomplish his mission.”⁵⁵

The field service regulations published in 1914 and 1924 did not expand on the estimate of the situation listed in the 1910 version. In 1932, the Army switched from Field Service Regulations to Field Manuals, which were designed as descriptive guidelines versus prescriptive rules⁵⁶. The 1932 FM 101-5, *Staff Operations*, was the first manual to define the commander's

⁵² Rex R. Michel, “Historical Development of the Estimate of the Situation”, Research Report 1577, (Fort Leavenworth: U.S. Army Research Institute for the Behavioral and Social Sciences, October 1990), 3.

⁵³ COL Kevin Benson, *Decision Making in the Information Age: A Case for Updating the Military Decision Making Model*, Monograph, (Massachusetts: United States Army Senior Service Fellowship Program at Massachusetts Institute of Technology, 2002), 8.

⁵⁴ Christopher R. Paparone, “US Army Decisionmaking: Past, Present and Future”, Military Review, July/August 2001, 44.

⁵⁵ United States Army Field Service Regulation, *Regulations for Field Maneuvers*, (Washington: Headquarters, Department of the Army, 1910), 3.

⁵⁶ Paparone, “US Army Decisionmaking”, 44.

estimate as mission, situation, COA, analysis, comparison, and decision. Besides adding subparagraphs, the commander's estimate has fundamentally remained the same since the 1932 version.⁵⁷ The 1932 version also provided more detail of staff functions and order formats. It is the basis from which our modern procedures for military decision-making are based.⁵⁸

The 1940, 1950, 1954, and 1960 versions of FM 101-5 continued to provide more detail on the staff planning process and procedures. The 1940 version included the use of considering multiple COAs for both enemy and friendly forces. The 1950 version provided the first guidance on how to analyze COAs.⁵⁹ The 1954 version included separate staff estimates for personnel, intelligence, operations, logistics, civil affairs, military government, and deception.⁶⁰ The 1960 version defined and described the MDMP and "placed the commander's estimate within the broader context of all the command and staff actions required to develop and execute a course of action [COA]".⁶¹

During the 1960s, decision-making, as well as operations research and systems analysis was becoming a serious field of study. The 1968 version represented this trend because it equated the military decision-making process to problem solving and subsequent versions have continued to do the same. The problem solving steps that were described in the 1968 version are identical to rational decision-making theory. This version added subparagraphs to the commander's estimate and was the first version to define war-gaming and its procedures.⁶² The 1968 version was more detailed than any previous version in every aspect and provided numerous wiring diagrams and flowcharts.⁶³ It focused heavily on the quantifiable or the science of war.⁶⁴

⁵⁷ Michel, "Estimate of the Situation", 4.

⁵⁸ Paparone, "US Army Decisionmaking", 44.

⁵⁹ Michel, "Estimate of the Situation", 6 – 7.

⁶⁰ Paparone, "US Army Decisionmaking", 44.

⁶¹ Michel, "Estimate of the Situation", 6.

⁶² Michel, "Estimate of the Situation", 4-8.

⁶³ Paparone, "US Army Decisionmaking", 44.

⁶⁴ Benson, *Decision Making in the Information Age*, 8.

Very little changed in the 1972, 1982, and 1984 versions of FM 101-5. However, there was a significant increase in complexity and detail in the 1997 version. The 1972 version recognized the need to differentiate between the administrative staff study and the military decision-making process for combat operations. The 1983 version recognized the MDMP was time consuming and should be a continuous process. The 1997 version of FM 101-5 described the MDMP in a complex, 38-step procedure. It also highlighted the commander's intent and introduced Commander's Critical Information Requirements (CCIR). Paradoxically, it recognized the need for synthesis during the MDMP even though it provided the most detailed, linear, step-by-step planning procedures to date.⁶⁵

Since the evolution of Captain Fitch's estimate of the situation to the 1997 version of FM 101-5, the military decision-making process has been based on rational decision-making theory. As the U.S. Army and its missions have become more complex, the military's decision-making process has become more detailed. However, the primary method and format has not significantly changed since inception.⁶⁶

Current U. S. Army Decision-Making Doctrine

Two manuals, FM 5.0, *Army Planning and Orders Production*, and FM 6.0, *Command and Control*, have replaced FM 101-5, *Staff Organization and Operations*. FM 5.0 is solely dedicated to planning while FM 6.0 covers command and control and staff organization. This separation of topics, previously covered entirely by FM 101-5, is significant because it allows FM 5.0 to fully concentrate on planning and decision-making. FM 5.0 continues to discuss the MDMP but also details Troop Leading Procedures (TLP). FM 5.0 reverts back to previous versions of FM 101-5 by describing Army Problem Solving in detail. However, the most

⁶⁵ Paparone, "US Army Decisionmaking", 44.

⁶⁶ Michel, "Estimate of the Situation", 15.

significant difference between FM 5.0 and previous versions of FM 101-5 is the focus on the art of planning.⁶⁷

FM 5.0's first chapter is dedicated to the nature of planning and is more theoretical and descriptive than the previous versions of FM 101-5. FM 5.0 recognizes that effective planning is both an art and a science. FM 5.0 maintains two central themes. The first theme is "commanders are responsible for planning and play a central role through the commander's intent and planning guidance."⁶⁸ The second theme is "planning supports mission command or military operations through decentralized execution based upon mission orders".⁶⁹ The manual recognizes the decision-making environment of complexity, uncertainty, and time described in Chapter 1 of this monograph. Although it dedicates entire chapters to the Army's decision-making processes—Army Problem Solving, MDMP, and TLP, it states the processes are a "means to an end and their value lies in the result not the process".⁷⁰

The planning fundamentals in FM 5.0, which will be used as criteria and were described in Chapter 1 of this monograph, also highlight key aspects of the art of planning. The fundamentals stress that the commander is the most important person involved in the process and the more he is involved, the faster the staff can plan. The fundamentals recognize that planning is a continuous, adaptive process because the situation continuously changes. Therefore the problem changes. Because of the constant changes, it recognizes that plans must be revised based on feedback. The importance of branch planning and sequel development is discussed but the manual does not really describe when or how it should be accomplished. FM 5.0 states planning is more applicable when you have a complex problem. However, it recognizes that whether a problem is complex or not is based on the experience of the problem solver and "leaders with

⁶⁷ United States Army, FM 5.0, iii – vi.

⁶⁸ Ibid., vi.

⁶⁹ Ibid., vi.

⁷⁰ Ibid., 1-1 – 1-2.

enough experience in a situation know intuitively what to expect, what goals are feasible, and what actions to take”.⁷¹ It also recognizes that an analytical planning process is useful when you don’t have experience because it allows you to systematically break the problem into solvable parts.⁷²

FM 5.0 introduces the following planning concepts: operational and tactical planning, risk reduction, hasty and deliberate operations, planning horizons, parallel and collaborative planning, forward and reverse planning, and planning pitfalls. The difference between operational and tactical planning is identified but the manual does not describe how the MDMP fits into the joint planning process. Risk reduction is described with the caveat that it cannot be eliminated, however plans can be flexible enough to face uncertainty and risk. Hasty and deliberate operations are defined in respect to how planning can support both. The concept of planning horizons is also established. Planning horizons are “points in time the commander uses to focus the organizations planning effort to shape future events”.⁷³ The concepts of parallel and collaborative planning are discussed. However, the FM focuses only on intelligence products being released early to enhance parallel planning and does not provide additional details. Collaboration is discussed only in the terms of how technology can assist in the process. Forward and reverse planning concepts are described in detail as well as advantages and disadvantages of both. FM 5.0 states the best method for planning is to “use reverse planning to provide an idea of what is feasible in the short term and forward planning to provide a point of aim over the long term”.⁷⁴ The planning pitfalls of using planning as a scripting process; planning too far ahead; planning in too much detail; and applying planning techniques inflexibly are also discussed.⁷⁵

⁷¹ Ibid., 1-9.

⁷² Ibid., 1-9.

⁷³ Ibid., 1-13 – 1-21.

⁷⁴ Ibid., 1-18 – 1-19.

⁷⁵ Ibid., 1-12 – 1-21.

FM 5.0 describes both rational and limited rational decision-making theory in regards to military decision-making while highlighting strengths and weaknesses of both. FM 5.0 defines the MDMP as an analytical process that uses precious time and is not applicable to all situations. It also recognizes that the limited rational or intuitive process relies on the commander's experience to "recognize the key elements and implications of a particular problem or situation, reject the impractical, and select an adequate course of action".⁷⁶ It briefly describes how commanders can combine both analytical and intuitive decision-making during operations by using the rational decision-making to plan an initial operation and limited rational decision-making during execution.⁷⁷ FM 5.0 states "in practice, commanders combine analytical and intuitive decision-making".⁷⁸

In essence, FM 5.0 identifies the theory behind decision-making and the decision-making environment. It describes key planning fundamentals and concepts that answer the criticism surrounding the MDMP that was highlighted in Chapter 1 of this monograph. However, the actual MDMP process in the new FM 5.0 is the same 38-step process as the previous version with one minor exception. It separates CCIR into initial CCIR for planning and CCIR for execution. There are several changes within the description of the MDMP steps that correspond with concepts developed in the FM 5.0 art of planning chapter. FM 5.0 does not state that the MDMP is a single proven process like the previous FM 101-5 version. FM 5.0 recognizes the MDMP is a planning tool based on rational decision-making and that an inflexible process will not work in all situations. FM 5.0 describes the role of the commander during MDMP in greater detail using the concept of visualize, describe, and direct. As part of this concept, it discusses using the elements of operational design (end state, center of gravity, decisive points and objective, lines of operation, culminating point, operational reach, simultaneous and sequential operations, linear

⁷⁶ Ibid., 1-12.

⁷⁷ Ibid., 1-13.

⁷⁸ Ibid., 1-13.

and nonlinear operations, and tempo) to visualize the battlefield but does not add a requirement within the MDMP to do this procedure. FM 5.0 describes the new battlefield framework of decisive, shaping, and sustaining operations when developing COAs. The MDMP under time-constrained conditions is described exactly the same as FM 101-5 but FM 5.0 discusses the benefits of intuition, experience, and parallel and collaborative planning while abbreviating the MDMP. FM 5.0 also discusses the role of the staff during the MDMP in greater detail and contains other minor expansions on each step throughout the process.⁷⁹

The MDMP itself consists of seven major steps, which have 38 associated tasks. The MDMP is based on rational decision-making. The process is linear and the outputs from each step are used as inputs for the next step. The seven steps are: Receipt of Mission, Mission Analysis, Course of Action (COA) Development, COA Analysis, COA Comparison, COA Approval, and Orders Production. The MDMP can be abbreviated under time-constrained conditions. The process is the same, but modified slightly for simplicity, and commander involvement is more direct.⁸⁰

Receipt of Mission begins the MDMP. The new mission can be ordered from higher headquarters or derived by the command and staff. The four tasks during Receipt of Mission are: alert the staff; gather tools and information needed; update staff estimates of the situation; and conduct an initial assessment. The critical factor during the initial assessment is determining the operational timeline. The outputs from this step are to issue initial guidance and issue the initial warning order to subordinate units. The commander's initial guidance is focused on the operational timeline and his decision on how the staff will plan – full or abbreviated MDMP. The first warning order is used to alert subordinate units and initiate parallel planning. Subordinates

⁷⁹ Ibid., 3-1 – 3-55.

⁸⁰ Ibid., 3-9, 3-49.

are informed of what type of operation they should expect to plan and execute as well as any initial movement that needs to occur.⁸¹

The next MDMP step is Mission Analysis, which consists of 17 tasks. If time is critical, the commander can conduct a rapid Mission Analysis, with his staff, using his intuition and experience. If necessary, the commander can also perform the entire Mission Analysis mentally instead of producing products and conducting a Mission Analysis brief. The purpose of Mission Analysis is to develop situational understanding surrounding the problem. The key to successful Mission Analysis is identifying all of the relevant information needed to assess the situation. This step uses the initial commander's guidance from step one, updated staff estimates, and higher headquarters orders and Intelligence Preparation of the Battlefield (IPB) as inputs.⁸²

The first task during Mission Analysis is to analyze the higher headquarters mission in order to understand the higher commander's intent, mission, and guidance and how the mission supports the higher commander's task and purpose. The next task is IPB. This is a continuous process that involves analysis of how the weather, terrain, and threat impact the mission. The third task is to identify specified and implied tasks from the higher headquarters. From these tasks, the essential tasks that are necessary to accomplish your mission are derived. The next task is to review available assets and determine what is needed to accomplish the essential tasks. After determining the essential tasks, the unit identifies all restrictions that have been placed on the unit by higher headquarters. The staff then identifies all facts surrounding the problem and assumptions that are valid and necessary to continue planning. The assumptions are replaced by facts as soon as possible. The seventh task is a risk assessment to identify, assess, and develop controls for risk factors. After conducting a risk assessment, the staff identifies what information is required to plan, prepare, execute, and assess the operation. This task is called determining

⁸¹ Ibid., 3-9 – 3-12.

⁸² Ibid., 3-52.

information requirements. Initial priority intelligence requirements, friendly forces requirements, and CCIR that are necessary for the commander to make a decision are identified. From the IPB and information requirements, the staff determines the initial Intelligence, Surveillance, and Reconnaissance (ISR) plan. The operational time line is then updated. Based on the previous steps, primarily the IPB and identification of essential tasks, the staff writes a restated mission that contains who, what, when, where, and why in respect to the current operation. The staff then conducts a Mission Analysis briefing to seek approval from the commander on the restated mission and to ensure the commander, staff, and subordinates have shared battlefield visualization.⁸³

The commander then develops his initial intent and issues planning guidance for COA Development, Analysis, and Comparison. The commander identifies the decisive operation and how he visualizes the battlefield. The planning guidance also includes priorities for the battlefield operating systems. A second warning order that contains all of the critical elements from the Mission Analysis briefing, commander's intent and planning guidance is issued to subordinates. At this time and throughout the rest of the process the staff reviews facts and assumptions surrounding the problem to ensure adjustments are made if the problem changes.⁸⁴

COA Development is the next step and contains 6 tasks. The purpose of this step is to develop comprehensive and flexible COAs to solve the problem. Under time-constrained conditions, the commander can direct the staff to develop one COA with branches against the most likely enemy COA. The restated mission, commander's intent, commander's planning guidance, staff estimates, and enemy COAs are the inputs, developed in the previous steps, used in COA Development. The first task in developing a COA is to determine what type of operation is possible. In order to accomplish this task, the combat power of both friendly and enemy units

⁸³ Ibid., 3-13 – 3-23.

⁸⁴ Ibid., 3-13 – 3-23.

is estimated and compared with historical planning factors to determine what type of operation is feasible. The next task is to generate options, using the commander's guidance, that defeat all enemy COAs. The staff first determines what the doctrinal requirements are for the type of operation being planned. The staff determines the task and purpose for the decisive operation, shaping operations, and sustaining operations. Forces are arrayed to determine the scheme of maneuver. The relative combat power required for each task is determined. Forces, two levels down, are then arrayed. Next, the concept of operations or how the arrayed forces will accomplish the mission is developed. Headquarters are then assigned and the staff prepares COA statements and sketches that will be used in the COA briefing. The commander gives additional guidance at the COA briefing and accepts, rejects, or modifies the COAs presented.⁸⁵

Next the staff conducts COA Analysis. The purpose of this step is to synchronize each COA in regards to the battlefield operating systems and to identify the best COA. Under time constrained conditions, if only one COA was directed, the staff saves times by verifying, refining, and synchronizing only one COA during the war-game. Another technique to save time is to war-game only the decisive operation. The eight steps to war-gaming are: gather the tools; list friendly forces; list assumptions; list known critical events and decision points; determine evaluation criteria; select the war-game method; select a method to record and display results; and war-game the battle and assess results. The evaluation criteria are the measures of effectiveness used to compare the COAs in regards to effectiveness and efficiency. The war-game is a disciplined process that follows an action-reaction-counteraction cycle. All COAs are war-gamed against all enemy COAs. Branches and sequels are also identified during the war-game.⁸⁶

After COA Analysis, the next step is to conduct COA Comparison. If only one COA was developed, the COA Comparison step is not necessary. The evaluation criteria developed during

⁸⁵ Ibid., 3-23 – 3-33.

⁸⁶ Ibid., 3-33 – 3-43.

the war-game are used by the staff to identify the advantages and disadvantages of each COA. A decision matrix is used to compare the COAs with respect to which one has the highest probability of success against the most likely and most dangerous enemy COA.⁸⁷

After COA Comparison, the staff recommends a COA to the commander. The commander selects, modifies, or rejects the staff's recommended COA and issues final planning guidance. This completes COA Approval. If the commander was directly involved throughout the entire process and only one COA was selected then the commander can forgo the decision brief.⁸⁸ The staff then issues a warning order and conducts Orders Production. Figure 3 illustrates the U.S. Army's MDMP.

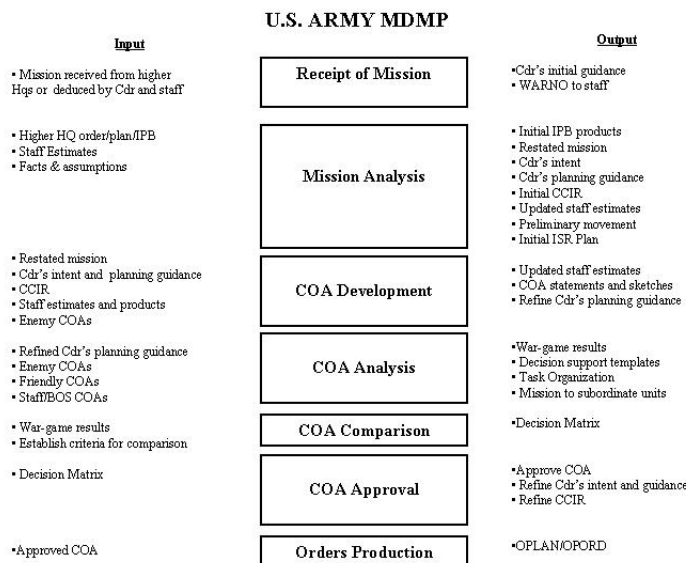


Figure 3 U.S. Army MDMP⁸⁹

Analysis of Current U. S. Army Decision-Making Doctrine

The MDMP and current U. S. Army decision-making doctrine will be analyzed using the following criteria that were developed from the decision-making environment described in

⁸⁷ Ibid., 3-55.

⁸⁸ Ibid., 3-33 – 3-48, 3-55.

⁸⁹ Ibid., 3-2.

Chapter 1. The criteria are: uncertainty, time, complexity, joint, commander's focus, flexible plans, and bold plans. This analysis will serve as the benchmark to measure whether the alternative decision-making methods listed in Chapter 3 provide a more optimum solution than the current MDMP.

As identified in Chapter 2, the MDMP is based on rational decision-making theory. One of the key assumptions of rational decision-making theory is that all information surrounding the problem will be available in order to develop the optimal solution.⁹⁰ The need for the key information surrounding the problem is addressed by the MDMP during Mission Analysis. It occurs when the initial CCIR are defined to determine what information is required to focus planning and select the optimum COA.⁹¹ The ISR plan is then developed and executed in order to determine the answers to the planning CCIR. However, the decision-making environment described in Chapter 1 highlighted the fact that there is no certainty in warfare and you will not know what you don't know.⁹² This dilemma is recognized by U.S. Army decision-making doctrine. FM 5.0 states, "Given the uncertain nature of operations, the object of planning is not to eliminate uncertainty but to develop a framework for action in the midst of it".⁹³ If the commander and staff do not understand the "uncertain nature of operations" as described by doctrine, the potential to consume the majority of planning time in order to have perfect knowledge is high. This is a regular occurrence at U.S. Army training centers.⁹⁴ However, if the commander and staff understand the doctrine and theory behind the MDMP, they can operate in an uncertain environment knowing they will never know all the answers or questions. They don't

⁹⁰ Schmitt, "How We Decide", 17.

⁹¹ United States Army, FM 5.0, 3-18

⁹² COL C. T. Rogers, "Intuition – The Imperative of Command in Manoeuvre Warfare", The British Army Review, August 1994, 34.

⁹³ United States Army, FM 5.0, 1-1.

⁹⁴ Antal, "It's Not the Speed Of the Computer That Counts", 12.

have to because they are developing a framework to work within, not completely eliminating uncertainty.⁹⁵

The 38-step MDMP is time consuming and is not suitable in time-sensitive situations.⁹⁶ A systematic analytical process, like the full MDMP, will always take a certain minimum amount of time in order to identify, analyze, compare options, and decide.⁹⁷ A Rand study conducted in 1990 found that U.S. Army Division Commanders, using the full MDMP, took 3 to 5 hours to issue orders after mission receipt.⁹⁸ The full MDMP is not acceptable in time sensitive situations especially with the focus on decision-superiority for joint operations as described in Chapter 1. However, Army doctrine recognizes that an inflexible process will not work in time-constrained environments. As a result, FM 5.0 provides several options that include using limited rationality decision-making as described in Chapter 1 to operate in a time-constrained environment.⁹⁹

FM 5.0 describes four methods to save time. All involve increasing the commander's involvement. If the commander is involved throughout the process, time will be saved because there is no reason to conduct a COA briefing or decision brief. The second method is for the commander to issue detailed guidance to the staff, which limits the staff options but provides focus on exactly what the commander wants. The third option is for the commander to direct one COA to be developed instead of attempting to find the optimal solution. The commander can also use limited rationality decision-making to mentally conduct Mission Analysis, develop his own COA, mentally war-game the COA, and give it to the staff to refine. This method eliminates the development of other COAs, the need to war-game other COAs, and COA Comparison. The elimination of the need to war-game other COAs is probably the biggest time saver because COA

⁹⁵ United States Army, FM 5.0, 1-1.

⁹⁶ Antal, "It's Not the Speed Of the Computer That Counts", 14.

⁹⁷ Schmitt, "How We Decide", 16.

⁹⁸ Rogers, "Intuition – The Imperative of Command in Manoeuvre Warfare", 35.

⁹⁹ United States Army, FM 5.0, 1-12, 3-48.

Analysis is one of the most time consuming steps of the MDMP.¹⁰⁰ The fourth method is to maximize parallel and collaborative planning in order to enhance the planning process throughout the entire organization. However, FM 5.0 does not describe a method to do so.¹⁰¹ U.S. Army decision-making doctrine recognizes the importance of time in the decision-making environment and provides the latitude to use the strengths of rational and limited rationality decision-making theory in order to operate in a time-constrained environment.

Dealing with complexity is a strength of an analytical decision-making process like the MDMP. The MDMP considers all critical information surrounding the complex problem and reduces the problem into essential, manageable tasks during Mission Analysis.¹⁰² Before the commander makes a decision, several COAs are developed with the staff providing deduced pros and cons for each.¹⁰³ Since the MDMP is designed for use by a staff, the overall ability to conduct analysis of large amounts of information pertaining to the problem is increased because of group problem solving.¹⁰⁴ The MDMP is descriptive and provides a framework that can be used during offensive or defensive operations, but it is also designed with enough versatility enough to be useful in support or stability operations.¹⁰⁵

FM 5.0 is the keystone manual for planning at corps and division. However, it refers planning for joint operations to joint publications rather than having a procedure that is compatible for both service specific and joint planning. The MDMP and the Concept Development Phase of the Joint Operations Planning Process outlined in Joint Publication 5-00.1,

¹⁰⁰ LTC Marc LeGare, "A TF Staff Drill for MDMP", US Army Center for Lessons Learned Web Site, (<http://call.army.mil/products/nftf/julaug01/chap5.htm>), 27 August 2003, 1.

¹⁰¹ United States Army, FM 5.0, 3-38 – 3-50.

¹⁰² Klein, "Strategies of Decision Making", 61.

¹⁰³ Brigadier G. L. Kerr, "Intuitive Decision-Making at the Operational Level of Command", The British Army Review, December 1994, 6.

¹⁰⁴ MAJ John J. Marr, *The Military Decision Making Process: Making Better Decisions Versus Making Decisions Better, Monograph*, (Leavenworth: School of Advanced Military Studies, US Army Command and General Staff College, 2001), 20.

¹⁰⁵ MAJ John Hall, "Decision Making in the Information Age, Moving Beyond the MDMP", Field Artillery, September-October 2000, 29.

Joint Doctrine for Campaign Planning, are both rational decision-making processes and fundamentally the same.¹⁰⁶ Major Kenneth Smith, a School of Advanced Military Studies student in 1999, defined in his monograph that the only real difference between the two processes is the analytical concepts used during Mission Analysis. Joint Doctrine uses the concepts of centers of gravity and decisive points, joint task force structure analysis, and end state. Army doctrine explains the concept of center of gravity and decisive points as part of the operational design listed in FM 3.0, but it is identified only as a means for the commander to visualize the battlefield, not as part of the MDMP itself. The identification of the friendly and enemy centers of gravity are critical at the operational level of war and help the commander understand how to defeat the enemy while protecting his own organization. The entire campaign or operation plan is built to defeat the enemy center of gravity while protecting the friendly center of gravity. The decisive points that are identified to indirectly attack the center of gravity become key objectives for the campaign. The joint force structure analysis is different from the forces available task during the Mission Analysis step of the MDMP. The forces needed to accomplish the mission based upon desired capabilities are identified as opposed to reviewing what forces are already task organized to the organization. The last difference is the definition of the end state. As part of the commander's intent, the end state is defined in military terms or what the friendly, enemy, and terrain situation should be at the end of the operation. The joint concept of end state includes the military aspect as well as other elements of the environment such as diplomatic, economic, and informational requirements.¹⁰⁷ Both the joint planning process and the MDMP are rational decision-making processes, therefore they have the same strength and weakness. However, the MDMP does not have the same analytical concepts as the joint planning process, which requires

¹⁰⁶ Joint Chiefs of Staff, Joint Publication 5.0-1, *Joint Doctrine for Campaign Planning*, (Washington: Department of Defense, 2002), III-5 – III-14.

¹⁰⁷ MAJ Kenneth R. Smith, *Using the Same Decision-making Process for Joint and Army Operations*, (Leavenworth: School of Advanced Military Studies, US Army Command and General Staff College, 1999), 20, 30 – 31.

the staff to conduct a different type of analysis with a different focus if they are part of a joint force.

The staff plays the dominant role during the MDMP.¹⁰⁸ During Mission Analysis, the commander and staff both complete separate estimates. The staff briefs their estimates to the commander during the Mission Analysis brief. The commander drives the rest of the planning process by approving or modifying the mission statement, and then providing his intent and planning guidance for the operation. The staff develops the COAs based off of the commander's intent and planning guidance. The commander approves or modifies the COAs and the staff war-games the COAs before recommending their proposal to the commander.¹⁰⁹ The commander then decides on which COA to refine and execute. If the commander conducts the minimum required by the MDMP, he is not involved with developing the COAs or war-gaming the COAs.

¹⁰⁸ Antal, "It's Not the Speed Of the Computer That Counts", 14.

¹⁰⁹ MAJ John W. Charlton, *Digitized Chaos: Is our Military Decision Making Process Ready for the Information Age?*, (Leavenworth: School of Advanced Military Studies, US Army Command and General Staff College, 1997), 32.

Developing COAs and war-gaming require judgment and experience, yet the most experienced member of the organization, the commander, is not involved.¹¹⁰ However, the flexibility inherent in FM 5.0 describes increasing the commander's role in planning as an option if the commander has assessed his staff is not experienced or trained.¹¹¹

FM 5.0 states flexible plans allow units to adapt quickly to a broad variety of situations and describes two methods that promote flexibility. These include mission type orders and designing branches and sequels. Mission type orders, specifying the mission and purpose but not the "how", can be conducted using any type of decision-making process. For the purpose of this monograph, the focus will be on designing branches and sequels. FM 5.0 states the need for developing branches and sequels to the plan but fails to describe how to accomplish this task. Developing branches and sequels is described only as a result of an effective war-game during Course of Action Analysis.¹¹²

The MDMP does not necessarily lend itself to create bold plans because of the process used to develop COAs and who develops the COAs. The COAs are developed from using the commander's intent, guidance, and doctrine. The COAs are designed to accomplish the key tasks from the commander's intent, which were developed through reductionism during the Mission Analysis. The staff then defines the doctrinal requirements to accomplish the mission and continues the process as previously described at the beginning of this chapter. This analytical approach based on reductionism does not inspire creative and bold courses of action.¹¹³ As a matter of fact, anyone using the same logical process and doctrine should be able to come up with

¹¹⁰ MAJ David W. Burwell, *Logical Evolution of the Military Decision Making Process*, (Leavenworth: School of Advanced Military Studies, US Army Command and General Staff College, 2001), 36.

¹¹¹ MAJ Joseph S. McLamb, "Is it time to Abandon the Military Decision Making Process?", *Military Review*, March-April 2002, 102.

¹¹² United States Army, FM 5.0, 1-6, 3-43.

¹¹³ Schmitt and Klein, "How We Plan", 19.

the same COA; including the enemy.¹¹⁴ Also, the most experienced person in the organization is not developing the COA. As a result of lack of experience and judgment, the staff cannot be as unpredictable, imaginative, and instinctive in devising COAs.¹¹⁵

¹¹⁴ Passmore, “Decision Making in the Military”, 44.

¹¹⁵ Rogers, “Intuition – The Imperative of Command in Manoeuvre Warfare”, 33.

CHAPTER 3 - Alternative Military Decision-Making Methods

Chapter 2 provided the analysis of the MDMP and current U.S. Army decision-making doctrine. Chapter 3 describes alternative decision-making processes that are significantly different in one or more aspect from the MDMP. The four processes are: Canadian Operational Planning Process, Recognition Planning Model, Collaborative Decision-Making Model, and the Naval War College Commander's Estimate of the Situation. Each process will be described and analyzed using the criteria developed in Chapter 1 to determine if one of the alternative decision-making processes provides a more optimum solution than the MDMP. The analysis of the MDMP in Chapter 2 will serve as the benchmark.

Canadian Operational Planning Process

The Canadian Estimate of the Situation is based on rational decision-making and is similar to the MDMP except the process is more commander-centric. The Canadian Estimate of the Situation is defined in the Canadian National Defence Doctrinal Manual, *Command*, dated 1996. The Canadian Army uses the estimate of the situation as its decision-making process. The manual states "the estimate is the orderly analysis of a problem leading to a reasoned solution".¹¹⁶ There are three different forms of the estimate used by the Canadian Army. The first estimate of the situation is considered a tactical decision-making process. It is performed at lower levels when there is no staff available to help the commander or when time is of essence and the commander has to make an immediate decision. This process is similar to U.S. Army Troop Leading Procedures. The commander accomplishes it informally without producing products. The second estimate is a formal process conducted by the commander with or without his staff. This process is similar to the MDMP. When the commander and staff use the formal process it

¹¹⁶ Canada, Chief of Defence Staff, *Command*, (Ontario: Department of National Defence, 1996), 123.

becomes the third estimate or the Operation Planning Process. Figure 4 illustrates the Canadian Estimate of the Situation.

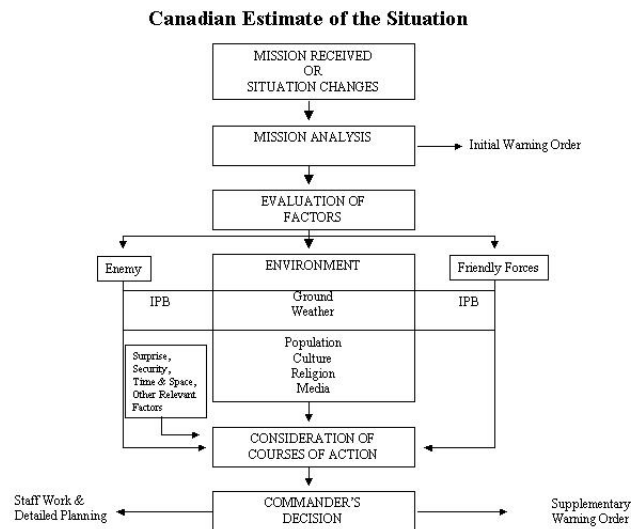


Figure 4 Canadian Estimate of the Situation¹¹⁷

The Operation Planning Process will be the estimate described and analyzed as part of this monograph because it is the formal process to plan operations at the tactical and operational level. The Operation Planning Process is a six-step process. The steps are: Receipt of Tasks, Orientation, Development of COAs, Decision, Plan Development, and Review.¹¹⁸

Step one, Receipt of Tasks, is the same as Receipt of Mission for the MDMP. The second step, Orientation, consists of mission analysis, the commander's initial estimate, and the issuance of planning guidance. The mission analysis is similar to the MDMP except the commander has primary responsibility for conducting mission analysis with the staff's assistance. The purpose of the mission analysis is to develop a shared visualization of the battlefield by the commander and staff. The commander asks four questions to determine his mission and how it is nested within the higher headquarters overall concept. The four questions are: superior's intent,

¹¹⁷ Ibid., 125.

¹¹⁸ Ibid., 149.

assigned and implied tasks, constraints, and changed situation. All factors surrounding the problem are analyzed to determine tasks, constraints, friendly and enemy capabilities. Possible tasks that need to be accomplished are identified and a preliminary assignment of troops to task is accomplished. The commander uses his initial estimate from the mission analysis to define the preliminary concept of operations. The commander then issues planning guidance consisting of his unrefined mission statement, intent, and a broad concept of operations. The commander's intent also includes his information requirements, key tasks to be completed, and administrative priorities for planning.¹¹⁹

The next step is to develop COAs. Development of COAs consists of three tasks. The first task is formulation of COAs. As many alternative COAs as time allows are formulated. The second task is comparison of COAs. Common aspects of all formulated COAs are identified. The different aspects of each COA are compared to each other in terms of effectiveness of accomplishing the mission with regards to the enemy COA. The advantages and disadvantages of each COA are then identified. The COAs are then war-gamed against the enemy COA to synchronize the COAs and determine branches and sequels. The Canadian Operations Planning Process is slightly different than the MDMP during this step because it combines three steps into one. The MDMP separates COA development, COA Analysis, and COA Comparison into three separate steps. The other significant difference is the Canadian process does not require the commander to approve the COAs before the war-game.¹²⁰

The Commander's Decision is the next step. He chooses his COA after considering alternatives. He then develops the concept of operations himself which includes his intent. A warning order detailing the commander's decision, concept of operations, and intent is then sent to subordinate headquarters to facilitate planning.¹²¹

¹¹⁹ Ibid., 128 – 136.

¹²⁰ Ibid., 136 – 137.

¹²¹ Ibid., 152.

Plan Development is the fifth step. After the Commander's Decision, the staff develops their portion of the order. The commander and staff war-game the selected COA again in order to refine and rehearse the concept of operations. The plan is then reviewed continuously prior to and during execution. The Operations Planning Process differs from the MDMP in this step because the commander and staff do not war-game the selected COA again and all execution decision products were produced during the initial war-game, not after the order begins production.¹²²

The Operational Planning Process will be analyzed to determine if it provides the optimal decision-making process as compared to the MDMP. It will be analyzed using the following criteria that were developed from the decision-making environment described in Chapter 1. The criteria are: uncertainty, time, complexity, joint, commander's focus, flexible plans, and bold plans. The analysis of the MDMP in Chapter 2, using the same criteria, will serve as the benchmark.

The Canadian Operational Planning Process is based on rational decision-making theory. It is fundamentally the same process as the MDMP; therefore it has the same strengths and weaknesses with regards to uncertainty. However, Canadian decision-making doctrine also recognizes that you cannot impose order on chaos and views the operational planning process as providing a framework to work within uncertainty, not to eliminate it.¹²³

The Operational Planning Process is also time consuming and not suitable in time-constrained environments. However, Canadian doctrine also recognizes the need for a flexible process and provides the option for the commander to mentally conduct the estimate of the situation in support of the operational planning process, which is akin to limited rationality decision-making. Because the commander is directly involved throughout mission analysis and

¹²² Ibid., 152.

¹²³ Ibid., 149.

develops a tentative concept of operations before COA development, the need for a detailed mission analysis brief is probably not necessary. However, as described in previous chapters, the staff war-games, and compares the COAs before the commander has approved them, unlike the MDMP where the commander approves the COAs before Course of Action Analysis and Comparison. This eliminates the need for a COA brief, but if the commander is not satisfied with the COAs, the staff will have wasted time war-gaming and comparing the COAs that were modified or rejected.¹²⁴

The Canadian Operational Planning Process has the same strengths as the MDMP in regards to complexity because it is also based on rational decision-making theory. The Operational Planning Process uses reductionism to break the problem into essential tasks that need to be accomplished to achieve success. The Canadian Operational Planning Process also puts emphasis on defining everything that affects the problem by having a separate sub-step, Evaluation of Factors, which the U.S. Army considers part of Mission Analysis.¹²⁵

The Operational Planning Process is designed for use at the tactical and operational levels of war. As part of the sub-step, Evaluation of Factors, the enemy center of gravity and decisive points are defined. The Evaluation of Factors step also includes an evaluation of air and naval assets. However, the process does not provide guidance for developing an end state. Like the MDMP, the process does not look any further than reviewing available forces for the tasks to accomplish the mission rather than conducting a force structure analysis to see what forces and capabilities are needed to accomplish the mission.¹²⁶

The Canadian Operational Planning Process is more commander-centric than the MDMP. Canadian doctrine places more emphasis on the commander's involvement throughout the process. The commander is responsible for conducting Mission Analysis while the staff supports

¹²⁴ Ibid., 123.

¹²⁵ Ibid., 126.

¹²⁶ Ibid., 126.

him.¹²⁷ The commander does not necessarily develop the COA during the Development of COAs step, but he has the option to do so. Also, like the MDMP, he provides planning guidance and an initial intent in order for the staff to develop COAs. More emphasis is placed on the commander making the decision to approve the COA than in the MDMP process. First, the step is named the Commander's Decision as opposed to COA Approval. Second, Canadian doctrine states that the commander not only selects the COA but "expresses it as his decision".¹²⁸ Third, the commander writes his own concept of operations and intent for the COA after approving it. Canadian doctrine specifically states "the expression of the decision or subsequent confirmation of it as a concept of operations is not a staff function as the commander himself must be able to identify with it himself and motivate subordinates with his Decision".¹²⁹

Canadian doctrine stresses the need for developing flexible plans within the Operational Planning Process. The need for contingency planning and developing branches and sequels are addressed as a separate topic within Canadian doctrine. Canadian doctrine stresses identifying branches and sequels by asking "what if" scenarios during mission analysis and war-gaming after the Commander's Decision.¹³⁰ However, there is no defined method on how to develop branches and sequels during the process.

The Operational Planning Process suffers from the same weaknesses in developing bold, creative plans as the MDMP. The Operational Planning Process uses the same analytical approach of assigning troops to task in accordance with doctrine to develop COAs. Also, like the MDMP, the staff normally develops the COAs. As a result, the experience and the intuition of the commander are not capitalized on during the Operational Planning Process.

¹²⁷ Lieutenant-Colonel Constant, "The Operational Planning Process within the Canadian Army: The Estimate", *Objective Doctrine*, August 2001, 47.

¹²⁸ Canada, Chief of Defence Staff, *Command*, 138.

¹²⁹ *Ibid.*, 138.

¹³⁰ *Ibid.*, 140.

Recognitional Planning Model

Major John Schmitt and Gary Klein developed a Recognitional Planning Model (RPM) in 1999. It is based on Gary Klein's previous research and development of recognition-primed decision-making, which is a form of limited rationality decision-making that was discussed in Chapter 1. Major Schmitt is the primary author of the United States Marine Corps planning and decision-making doctrine and has written extensively on how the Marine Corps decides and plans. Gary Klein is a cognitive psychologist who has produced several studies on decision-making for the military and developed the recognition prime decision-making model in his book Sources of Power. The authors of the planning model used five objectives in developing their process. Their primary purpose was to develop a model that worked in time constrained environments. Their second objective was to ensure the most experienced person in the unit, the commander, was directly involved in the process. They also wanted to develop a model based on naturalistic decision-making, or how people really make decisions in complex, uncertain situations with little time. The fourth objective was to develop a model that allowed both planners and executors a method to learn while planning. The final objective was to develop a method to create, test, and rehearse the plan for execution. The model was designed to be more descriptive than prescriptive. The authors believed planners would naturally gravitate towards this type of planning, but would also provide a routine procedure that could be universally taught.¹³¹

The model is not linear and contains iterative feedback loops, but for the purpose of this monograph it will be described in six steps. The steps are: Situational Information/Guidance Tasking; Understand Mission/Conceptualize COA; Test/Operationalize COA; War-game COA; Develop Orders; Disseminate, Execute, Improvise.¹³²

¹³¹ Schmitt and Klein, "How We Plan", 20 – 26.

¹³² Ibid., 21.

The first step of Situational Information/Guidance Tasking is equivalent to step 1 of the MDMP – Receipt of Mission. The second step of the process, Understand Mission/Conceptualize COA, is where the mission is assessed and an initial COA is conceptualized simultaneously. Instead of breaking down the mission into essential tasks, the method in the RPM is designed to develop a creative COA that can accomplish the mission based on experience and intuition of the commander. A single COA is considered at one time instead of developing three or more COAs and determining the best one. The method is designed for the commander to be directly involved and to use his experience in conceptualizing the COA. The output of the second step is an initial concept of operations, which occurs early in the planning process and allows for initiation of parallel planning.¹³³

After the second step, Understand Mission/Conceptualize COA, the COA is tested and operationalized simultaneously. Requirements and problems associated with the COA are determined to test the COA. It is operationalized by using reductionism to break the concepts into detailed executable tasks and purpose; arraying forces; establishing command relationships; establishing command and control measures; assigning objectives; sequencing the operation; and developing supportable logistic, fire support, and intelligence collection plans.¹³⁴

The fourth step of war-gaming actually begins mentally during the Understand/Conceptualize COA step and is part of the Testing/Operationalizing step. The purpose of war-gaming in the RPM is to validate the plan and provide a learning opportunity for the planners and executors through rehearsal. Coordination issues are resolved and branches and sequels are developed. The single friendly COA is war-gamed against the most likely and most dangerous enemy COA.¹³⁵

¹³³ Ibid., 22 – 23.

¹³⁴ Ibid., 23.

¹³⁵ Ibid., 23 – 24.

After the COA has been “satisfied” during war-gaming, the next step is to produce the orders.¹³⁶ There is no need to compare the COA with other candidates if the developed COA satisfies the requirements. Feedback loops exist, throughout the process, which continuously improve upon the plan, therefore making it an iterative process. At any point if the COA is deemed unsatisfactory or the situation changes, a new COA can be conceptualized using the information already learned.¹³⁷ Figure 5 illustrates the RPM.

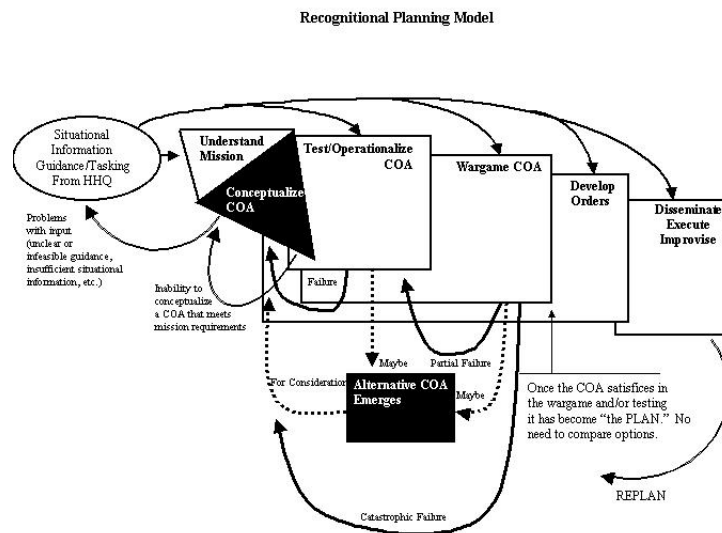


Figure 5 Recognitional Planning Model¹³⁸

The RPM will be analyzed to determine if it provides the optimal decision-making process as compared to the MDMP. It will be analyzed using the following criteria that were developed from the decision-making environment described in Chapter 1. The criteria are: uncertainty, time, complexity, joint, commander’s focus, flexible plans, and bold plans. The analysis of the MDMP in Chapter 2, using the same criteria, will serve as the benchmark.

¹³⁶ Gary Klein defined the term “satisficing” as selecting the first option that works which is different from most decision making theories that optimize or develop the best solution. Klein, *Sources of Power: How People Make Decisions*, 20.

¹³⁷ Ibid., 24 – 25.

¹³⁸ Ibid., 24.

The RPM is based on limited rationality decision-making theory. The advocates of limited rationality decision-making theory state that it deals with uncertainty better than rational decision-making because the decision-makers look for patterns based on experience and intuition as opposed to attempting to find out all critical information surrounding the problem.¹³⁹ If the decision-maker has experience with the problem at hand then the advocate's hypothesis is true. However, if the decision-maker has no experience with the situation at hand then he cannot develop a hypothesis based on his intuition. Furthermore, the pattern cues that do not fit the hypothesis are deemed irrelevant when they could be critical information pertaining to the problem.¹⁴⁰ Therefore, the key to dealing with uncertainty using the RPM is the experience of the decision-maker. If the decision-maker does not have adequate experience, the RPM does not handle uncertainty better than the MDMP.

The RPM is designed to function the way humans naturally make decisions; therefore it is compatible with time pressure. Early in the process during the second step, a single COA is developed, which facilitates parallel planning. The commander develops the COA so there is no need to conduct a COA brief. Only one COA has to be war-gamed. There is no reason to conduct COA Comparison because only one COA was developed. Because the commander developed the COA, time is not needed for approval.¹⁴¹ The RPM is faster than the full MDMP. However, because FM 5.0 gives the option to conduct planning based on limited rationality theory, the commander can use his intuition and experience to develop only one workable COA. Therefore, the RPM does not provide an advantage to operating in a time-constrained environment as opposed to the MDMP.

¹³⁹ GEN Charles C. Krulak, "Cultivating Intuitive Decisionmaking", Marine Corps Gazette, May 1999, 19.

¹⁴⁰ MAJ John C. DeJarnette, *Keeping Your Dog in the Fight: An Evaluation of Synchronization and Decision-Making*, (Leavenworth: School of Advanced Military Studies, US Army Command and General Staff College, 2002), 5.

¹⁴¹ Schmitt and Klein, "How We Plan", 19 – 24.

The RPM is not the optimal decision-making process for dealing with complexity. The key to using the RPM is having expertise to identify patterns and being able to mentally war-game a feasible solution. Few, if any, commanders have the experience to know exactly what to do in every situation presented by the complex decision-making environment described in Chapter 1.¹⁴² The problem is further exacerbated when moving from the tactical to operational level of war because the situation is more abstract and it is more difficult to recognize a discernable pattern.¹⁴³

As described in the previous chapter, the RPM is not suitable for conducting campaign planning at the operational level of war because of complexity. Also, the model is designed to develop only one COA without any real justification for why the COA was chosen. This would make it extremely difficult to receive approval by the Joint Staff.¹⁴⁴ None of the analytical concepts used by joint doctrine such as center of gravity, decisive points, and end state are part of the model either.

The commander, probably the most experienced person within the organization, is directly involved throughout the entire planning process when using the RPM. The commander is the lead planner; he personally develops the COA and participates in the war-game.¹⁴⁵ The RPM does provide a better model for involving the commander than the full MDMP. However, as described in Chapter 2, FM 5.0 provides the option for the commander to also be the lead planner if he assesses his staff is not adequately experienced or trained.

The RPM is similar to the MDMP in regard to developing flexible plans. There are no procedures for developing branches and sequels as part of the RPM. The authors of the model only suggest that branches and sequels should be developed as part of war-gaming.¹⁴⁶

¹⁴² Burwell, *Logical Evolution of the Military Decision Making Process*, 29.

¹⁴³ DeJarnette, *Keeping Your Dog in the Fight*, 13.

¹⁴⁴ Schmitt, "How We Decide", 18.

¹⁴⁵ Ibid., 22.

¹⁴⁶ Ibid., 19 – 24.

The commander uses synthesis to develop the COA when using the RPM instead of the staff using reductionism to develop the COA like the full MDMP. As a result, the commander can use his experience and intuition to develop creative, bold plans.¹⁴⁷ However, FM 5.0 provides the same guidance, described in Chapter 2, to commanders using the MDMP if the they assess their staff is inexperienced or if there is not enough time to consult the staff before making a decision.

Collaborative Decision-Making Model

Based on the current technological capabilities that the U.S Army has or is currently fielding, COL Kevin Benson developed a proposed decision-making model in 2002 that focused on using collaborative and parallel planning to update the current MDMP. COL Kevin Benson is currently the director of the School of Advanced Military Studies, Command and General Staff College, Ft. Leavenworth, Kansas. COL Benson's proposed planning model assumes that the units involved in the operation have the capability to see a common operational picture and conduct collaborative planning via digital devices. The proposed process is iterative and involves six actions that are completed in parallel with all command echelons involved in the operation. The process is not sequential but will be described in order for the purpose of this monograph. The six actions are: Update/Ensure Situational Understanding; Receive Mission; Collaborate on Schemes of Maneuver; Refine/Synchronize a Selected COA; Commander's Approval of Plan; Rehearsal.¹⁴⁸

The first action, Update/Ensure Situational Understanding, is a continuous process that occurs before receiving a mission and throughout planning and execution of the mission. COL Benson's proposal is that the current and future Command, Control, Computers, Communications, Intelligence, Surveillance, and Reconnaissance (C4ISR) possessed or being

¹⁴⁷ Ibid., 19 – 24.

¹⁴⁸ Benson, *Decision Making in the Information Age*, 4 – 5.

fielded should provide the Army with an unprecedented capability to ensure that everyone, regardless of echelon, has the same situational understanding.¹⁴⁹

The second action, Receive Mission, is equivalent to the first MDMP step. However, the collaborative process enables all participating units the ability to receive the mission simultaneously. The same situational understanding throughout several echelons also provides the units with a capability to recognize the need to develop a new plan because the current mission has changed.¹⁵⁰

Once the mission has been received, units are alerted to begin planning. The common operational picture and databases provide a shared situational understanding of the factors bearing on the problem, which facilitate the third action of Collaboration on Schemes of Maneuver. During this action, one collaborative COA is developed. The commander provides his visualization of the battlefield and his concept of operations, which are immediately analyzed by subordinate echelon commanders and staffs through the collaborative process. Subordinate commanders and staffs can provide immediate feedback on the concept of operations and offer alternative COAs. This process maximizes the experience and creativity by allowing the most senior and experienced personnel at each echelon to provide input on the concept of operations.¹⁵¹

The collaborative COA is then refined and synchronized through the fourth action, Refine/Synchronize a Selected COA. This process is similar to COA Analysis of the MDMP in terms of the war-gaming process. However, only one COA is war-gamed and subordinate commanders and staff participate in the war-game process, further enhancing the learning aspect for both planners and executors.¹⁵²

¹⁴⁹ Ibid., 5.

¹⁵⁰ Ibid., 5.

¹⁵¹ Ibid., 6.

¹⁵² Ibid., 6.

The commander then approves the plan that has been refined through the war-game. The approval should be seamless since the commander and subordinate commanders have been involved in the process since the beginning. The commander issues guidance and rehearsals begin.¹⁵³ Figure 6 illustrates COL Kevin Benson's proposed decision-making model.

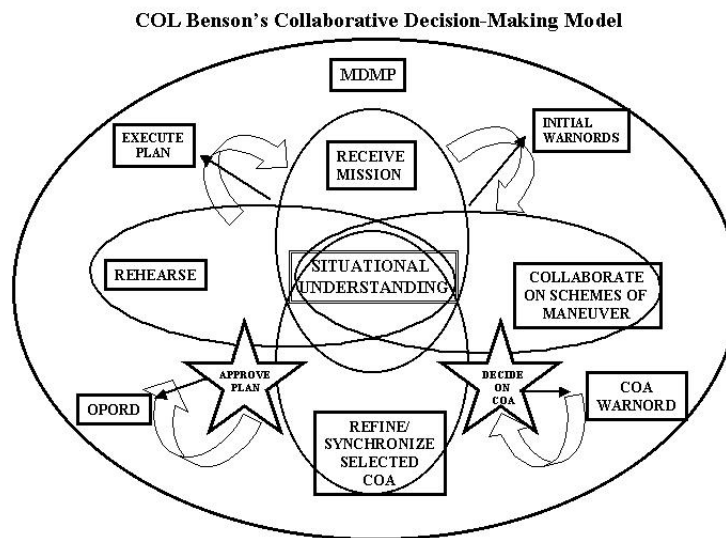


Figure 6 Collaborative Decision-Making Model¹⁵⁴

The Collaborative Decision-Making Model will be analyzed to determine if it provides the optimal decision-making process as compared to the MDMP. It will be analyzed using the following criteria that were developed from the decision-making environment described in Chapter 1. The criteria are: uncertainty, time, complexity, joint, commander's focus, flexible plans, and bold plans. The analysis of the MDMP in Chapter 2, using the same criteria, will serve as the benchmark.

The Collaborative Decision-Making Model does mitigate some uncertainty. Higher and subordinate headquarters can participate in the planning process at the same time. As a result, the commanders can highlight their strengths and weaknesses in regard to conducting the operation

¹⁵³ Ibid., 6.

¹⁵⁴ Ibid., 4.

that is being planned as the COA is being developed. Also, everyone views the same information at the same time, while the plan is being developed, to include facts and assumptions surrounding the problem. This eliminates some uncertainty with regard to the friendly situation. However, the uncertainty with regard to the enemy and environmental factors remain the same.

The Collaborative Decision-Making Model is the optimal decision-making process for operating in a time-constrained environment primarily because the plan is being developed by the entire organization at the same time. It is truly parallel planning. During the Collaborate on Scheme of Maneuver action, the Collaborative Decision-Making Model combines COA Development and COA Analysis. The experts, commander and subordinate commanders, throughout the organization develop only one COA. As a result, there is no need to compare COAs, conduct a COA brief, or war-game more than one COA. The COA war-game is conducted the same as in the MDMP. However, since subordinate units are participating collaboratively they can accurately state the capabilities and reactions of their units during the war-game process, saving time that the staff would use to research the information. If the current or future C4ISR systems have the capability to provide a networked environment where every echelon can collaborate during planning, the Collaborative Decision-Making Model is the optimal decision-making process for operating in a time-constrained environment.¹⁵⁵

COL Benson's Collaborative Planning Model does not elaborate on whether it is based on rational decision-making theory or limited rationality decision-making theory. However, both methods could be used for the model if needed. If the commander decided the problem was complex and had to be reduced to manageable parts, then rational decision-making could be used. If the commander and subordinate commanders and staff had experience, they could rely on

¹⁵⁵ Ibid., 4.

intuition and solve the problem using limited rationality decision-making. Therefore, the model would be similar to the MDMP in dealing with complexity.¹⁵⁶

There is no description of using joint terminology or joint analytical concepts such as center of gravity analysis, decisive points, or end state, as part of the Collaborative Decision-Making Model. There is no reason why joint terminology and doctrine could not be used as part of the model because it provides the framework for any analytical concept to be used. Therefore, it is feasible that the Collaborative Decision-Making Model could be used by a Joint Force Commander to conduct campaign planning at the operational level of war.

The Collaborative Decision-Making Model is the optimal decision-making model in regard to commander's focus. Not only does it involve the commander directly but it also involves the subordinate commanders throughout the entire process. The commander is responsible for developing the COA in collaboration with his subordinate commanders. The commanders also participate in war-gaming the COA that was developed collaboratively.

The Collaborative Decision-Making Model does not provide guidance on how branches and sequels will be developed to ensure flexibility. Since the war-game is conducted the same as the MDMP, the author of this monograph assumes that the same guidance follows as in FM 5.0 with respect to developing branches and sequels. Therefore, the Collaborative Decision-Making Model is similar to the MDMP with regard to flexibility.

The Collaborative Decision-Making Model provides the capability to have the most experienced personnel throughout the entire organization develop the COA. As a result, these experts can maximize their different experiences and intuition to develop a creative, bold plan. The Collaborative Decision-Making Model is the optimal decision-making model for developing bold plans.

¹⁵⁶ Ibid., 4.

Naval War College Commander's Estimate of the Situation

The Joint Military Operations Department, Naval War College developed their own version of a Commander's Estimate of the Situation (CES) in order to instruct their students on planning. The Naval War College CES is derived from Navy, Marine Corps, Army, and joint planning and decision-making publications. The CES is designed for use at all echelons and all levels of war.¹⁵⁷ The CES is a linear, sequential process based on the rational decision-making model. However, the CES states, "the process provides a comprehensive framework, rigid adherence to form, or fault application may lead to a strictly mechanistic process of rationalization".¹⁵⁸ The instructional workbook also states the form of the CES "may vary from a short, almost instantaneous mental estimate to a carefully written document that requires days of preparation".¹⁵⁹ The five steps of the CES are: Joint Intelligence Preparation of the Battlespace (JIPB) and Mission Analysis; Develop Friendly COAs, Analyze Friendly COAs, Compare Friendly COAs, and the Decision.¹⁶⁰

The first step of the CES differs from the MDMP because it separates the IPB or JIPB in the CES version from Mission Analysis even though many steps of both are conducted in parallel. The JIPB process is conducted the same as IPB except it mirrors joint doctrine and focuses on identifying the enemy and friendly critical factors in order to identify critical strengths and weaknesses. The critical factors are: centers of gravity, critical vulnerabilities, and decisive points. These critical factors are the key element in driving the rest of the process.

The remainder of the CES steps and tasks are identical to the MDMP.¹⁶¹ Step 2 of the CES, Develop Friendly COAs, is exactly the same as Step 3 of the MDMP, COA Development.

¹⁵⁷ United States Naval War College, *Commander's Estimate of the Situation Instructional Workbook*, (Rhode Island: Joint Military Operations Department, Naval War College, 2002), i.

¹⁵⁸ *Ibid.*, 1.

¹⁵⁹ *Ibid.*, 1.

¹⁶⁰ *Ibid.*, 2.

¹⁶¹ *Ibid.*, 1-1 – 5-2.

Step 3 of the CES, Analyze Friendly COAs, is exactly the same as Step 4 of the MDMP, COA Analysis. Step 4 of the CES, Comparison of COAs is exactly the same as Step 5 of the MDMP, COA Comparison. Step 5 of the CES, The Decision, is exactly the same as Step 6 of the MDMP, COA Approval. Figure 7 illustrates the Naval War College's version of the Commander's Estimate of the Situation.

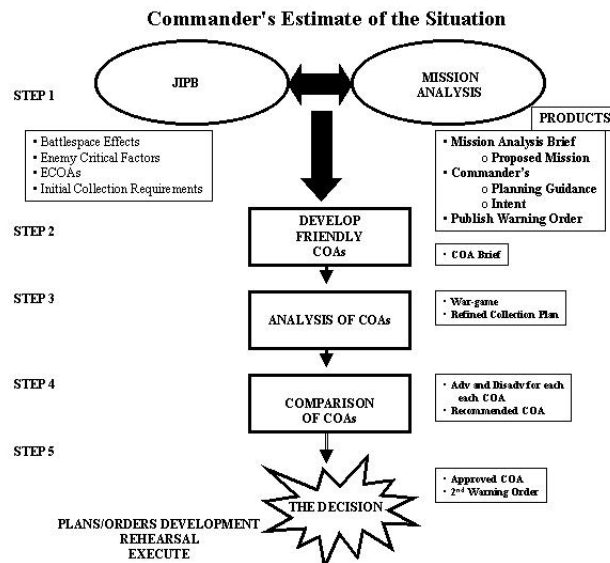


Figure 7 Naval War College Commander's Estimate of the Situation¹⁶²

The Naval War College CES will be analyzed to determine if it provides the optimal decision-making process as compared to the MDMP. It will be analyzed using the following criteria that were developed from the decision-making environment described in Chapter 1. The criteria are: uncertainty, time, complexity, joint, commander's focus, flexible plans, and bold plans. The analysis of the MDMP in Chapter 2, using the same criteria, will serve as the benchmark.

The CES is based on rational decision-making but gives the option for the commander to use limited rationality decision-making theory if needed to make a decision based on experience

¹⁶² Ibid., 1-1.

and intuition. The CES is time consuming and not suitable in time-sensitive situations. Since the CES is based on rational decision-making, it can be used to solve complex problems. The staff plays the dominant role in the CES therefore it is not commander-centric. The CES does not provide a detailed method on how to develop branches and sequels. The CES does not promote creativity and development of bold plans because the staff develops the COAs and reductionism is used as the process to develop the COAs. Since the CES is exactly the same as the MDMP except for Steps 1 and 2, it has all the strengths and weaknesses of the MDMP with regard to the analytical criteria used in this monograph except it is superior in one aspect. The CES uses joint terminology and joint analytical concepts as part of the estimate. It supports operational planning by conducting center of gravity analysis, identifying decisive points, and end state.¹⁶³

Analytical Summary

Using the analysis of the MDMP as a benchmark, the comparative analysis of the alternative decision-making processes show that the MDMP is equal to or better than the alternative decision-making processes in terms of uncertainty and complexity. The MDMP provides the flexibility to use the strengths of both rational and limited rationality decision-making theory. The Collaborative decision-making model is superior in terms of time, commander's focus, and developing bold plans because the commander and subordinate commanders are directly involved in developing the plan simultaneously. The Naval War College CES is the most compatible for joint war fighting because it uses joint terminology and joint analytical concepts. All the decision-making models are poor in terms of developing flexible plans because no process describes a method to develop branches and sequels. They only state that it should be accomplished as part of war-gaming.

¹⁶³ COL Joseph Anderson and COL Nathan K. Slate, "The Case for a Joint Military Decisionmaking Process", Military Review, September-October 2003, 11-19.

CHAPTER 4 - Conclusion

If a commander and staff use the 38-step MDMP checklist from FM 5.0 for all situations then the MDMP is untimely, unrealistic, dogmatic, and stifles creativity. In this scenario, the MDMP is not the optimum decision-making process by any means. FM 5.0 goes into great detail on the history, theory, and art of planning, which all who use the MDMP must understand. FM 5.0 provides the answers to make the MDMP an effective and flexible process capable of dealing with the current and future decision-making environment. However, the analysis conducted in Chapter 2 and 3 of this monograph show that the MDMP could be improved with respect to time-constraints, commander's focus, operating in a joint environment, and developing bold, flexible plans. Therefore, the U.S. Army's decision-making doctrine is sound, but the MDMP itself could be improved to make it the optimum decision-making process.

Proposed Modified Military Decision-Making Model

The alternative decision-making models that were analyzed in Chapter 3 of this monograph provide methods to improve the MDMP. The Collaborative Decision-Making Model provides the baseline for improving the MDMP in terms of time, commander's focus, and developing bold plans. The joint terminology and analytical concepts used by the Naval War College CES provide the example to increase the capability of using the MDMP in a joint environment. Dr. Gary Klein, the author of Sources of Power and co-developer of the RPM, provides a simple method to develop branches and sequels that is absent in all decision-making models described in this monograph. The proposed decision-making model will be described in the following paragraphs noting only the differences with the current MDMP.

The proposed MDMP is conducted in eight steps. The steps are presented in order but it is not considered a linear process. The eight steps are Receipt of Mission, Mission Analysis, Collaborate on Courses of Action, War-game, Pre-Mortem Analysis, Commander's Guidance, Orders Production, and Rehearsal. The first step, Receipt of Mission, remains the same except

the commander makes a decision, based on the decision-making environment (uncertainty, time, complexity) and his experience, whether to use rational decision-making or limited rationality decision-making. The entire process is conducted collaboratively with the higher commander and staff and the commander and staff of two echelons below without going below battalion level.

The second step is Mission Analysis. The commander and staff conduct one estimate of the situation. The commander also develops a tentative COA as early in the process as possible to be used as a baseline to conduct the mission analysis. This addition will help the commander and staff analyze only the critical information needed to solve the problem. It will lend rigor to the analysis that is conducted and truly make the process iterative. If the commander chooses to use limited rationality decision-making then he can conduct Mission Analysis mentally. If he chooses to use rational decision-making, then the commander and staff can follow the 17 tasks outlined in the current MDMP and three proposed additions. Instead of just using the elements of operational design listed in FM 3.0 to visualize the battlefield, the commander and staff will define the elements of operational design. If the mission is being conducted at the operational level of war, a critical factor analysis is completed and the center of gravity for both friendly and enemy forces is defined, as well as decisive points. If the mission is tactical, only the decisive points are defined and depicted on all visual references, including COA sketches. The other task of Mission Analysis that is changed is Review Available Assets. Instead of reviewing available forces for the essential tasks that were defined as part of Mission Analysis, the commander and staff will determine the capabilities required to accomplish the essential tasks. They will identify if they have the necessary capabilities with their assigned forces. As a result, the process will work for both operational and tactical mission analysis.

The third step is Collaborate on COAs and is based on the Collaborative Decision Making Model described in Chapter 3. The norm will be for the commander and subordinate commanders to develop one COA. Since the commander and staff tentatively developed a COA during Mission Analysis, the same COA can be refined or a completely new COA can be

developed to solve the problem. If there is time, the commanders will develop more than one COA. This step will maximize the use of time and the creative capability of the most experienced personnel in the organization to develop the COA.

The fourth step is War-gaming. This step is the same as the MDMP. One COA will be war-gamed against the most likely and most dangerous enemy COA. However, this step should be completely automated because it is a disciplined process that uses rules and the science of warfare to present a picture of what is most likely to happen on the battlefield. Several automated programs are available at this time that can conduct war-gaming.

The fifth step is Pre-mortem Analysis and is based on research by Gary Klein and defined in his book Sources of Power. This step is designed to identify branches and sequels in order to provide flexibility to the commander. The step initially begins during the War-game when branches and sequels are defined with associated decision-points. Also, at the end of the War-game, the commander and staff visualize that the plan failed. The commander and staff then identify why the plan may have failed and develop further branches and sequels to provide flexibility.¹⁶⁴ This step can continue by the planning team throughout the remainder of the planning process and during the execution of the plan as assumptions turn into facts.

The sixth step is Commander's Guidance and is similar to the COA Approval step of MDMP. The commander approves the COA that he developed and the staff refined. Then the commander issues final guidance for his subordinates for execution. The seventh step is Orders Production and the eighth step is Rehearsal. Both of these steps are the same as the MDMP.

Throughout the entire process the commander and staff should focus on solving the problem and not just completing each step of the process. In order to provide a mental model for conducting the process in this manner, the following questions that were developed by British Army Major J. E. Passmore should be used:

¹⁶⁴ Klein, *Sources of Power: How People Make Decisions*, 71.

1. Do I understand the context of my mission, my part in the commander's plan, and the effect he wants me to achieve on the enemy?
2. What does the enemy want to achieve, how is he going to seek to achieve it (where, when and how) and with what resources?
3. Have I deployed my resources in such a way that I maximize their utility, have maximum impact on the enemy, and achieve the effect my commander desires? Is my plan supportable?
4. If I were the enemy, could I exploit my plan to prevent me from achieving my mission and are the enemy's own weaknesses being exploited or attacked?
5. What will go wrong with the plan, why, what can I do to minimize the risks and what will I do when it happens?¹⁶⁵

¹⁶⁵ Passmore, "Decision Making in the Military", 47.

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